Amendments to the Claims

Kindly amend claims 1, 3, 8, 10, 15 & 17 as set forth below. In accordance with U.S. Patent Office amendment practice, all pending claims are reproduced below. Changes in the amended claims are shown by underlining (for added matter) and strikethrough/double brackets (for deleted matter).

1. (Currently Amended) A method of filtering pixels of video frames of a sequence of video frames for facilitating video encoding thereof, said method comprising:

prior to MPEG compressing encoding of the video frames, obtaining pixel values of the video frames of the sequence of video frames; and

programmably vertically filtering noise from said pixel values of said video frames prior to said MPEG compression encoding.

2. (Original) The method of claim 1, wherein said programmably vertically filtering comprises obtaining vertical filter coefficients for use in vertically filtering said pixel values.

3. (Currently Amended) The method of claim 2, wherein said obtaining vertical filter coefficients comprises dynamically obtaining via a host interface new vertical filter coefficients during said programmably vertically filtering of pixel values.

4. (Original) The method of claim 2, wherein said vertical filter coefficients comprise at least two programmable luminance filter coefficients and at least two programmable chrominance filter coefficients.

5. (Original) The method of claim 4, wherein said programmably vertically filtering further comprises:

separating luminance components and chrominance components of said pixel values in a vertical filter buffer;

vertically filtering luminance components of said pixel values using said at least two programmable luminance filter coefficients and vertically filtering chrominance components of said pixel values using said at least two programmable chrominance filter coefficients; and

merging filtered luminance component data and filtered chrominance component data after said vertically filtering of luminance components and said vertically filtering of chrominance components.

6. (Original) The method of claim 5, further comprising performing at least one of said vertically filtering luminance components of said pixel values and said vertically filtering chrominance components of said pixel values, as follows:

vertically filtering luminance components of said pixel values by determining filtered luminance component data using:

$$Lum\ (filtered) = \frac{L_1Pl_1 + L_2Pl_2 + L_3Pl_3 + L_4Pl_4}{256}$$

where:

Lum(filtered)= a filtered pixel luminance component,

L_1, L_2, L_3, L_4 = programmable luminance filter coefficients,

Pl_1, Pl_2, Pl_3, Pl_4 = luminance component data for vertical pixels P_1, P_2, P_3, P_4 prior to vertical filtering; and

vertically filtering chrominance components of said pixel values by determining filtered chrominance component data using:

$$Chr\ (filtered) = \frac{C_1Pc_1 + C_2Pc_2 + C_3Pc_3 + C_4Pc_4 + C_5Pc_5}{256}$$

where:

Chr(filtered) = a filtered pixel chrominance component,

C_1, C_2, C_3, C_4, C_5 = programmable chrominance filter coefficients, and

Pc_1, Pc_2, Pc_3, Pc_4, Pc_5 = chrominance component data for vertical pixels P_1, P_2, P_3, P_4, P_5 prior to vertical filtering.

7. (Original) The method of claim 2, wherein said vertical filter coefficients are dynamically programmable per video frame of the sequence of video frames for enhancing video encoding of the sequence of video frames.

8. (Currently Amended) A system for filtering pixels of video frames of a sequence of video frames for facilitating video encoding thereof, said system comprising:

means for obtaining, prior to MPEG compression encoding of the video frames, pixel values of the video frames of the sequence of video frames; and

means for programmably vertically filtering noise from said pixel values of said video frames prior to said MPEG compression encoding.

9. (Original) The system of claim 8, wherein said means for programmably vertically filtering comprises means for obtaining vertical filter coefficients for use in vertically filtering said pixel values.

10. (Currently Amended) The system of claim 9, wherein said means for obtaining vertical filter coefficients comprises means for dynamically obtaining via a host interface new vertical filter coefficients during said programmably vertically filtering of pixel values.

11. (Original) The system of claim 9, wherein said vertical filter coefficients comprise at least two programmable luminance filter coefficients and at least two programmable chrominance filter coefficients.

12. (Original) The system of claim 11, wherein said means for programmably vertically filtering further comprises:

means for separating luminance components and chrominance components of said pixel values in a vertical filter buffer;

means for vertically filtering luminance components of said pixel values using said at least two programmable luminance filter coefficients and for vertically filtering chrominance components of said pixel values using said at least two programmable chrominance filter coefficients; and

means for merging filtered luminance component data and filtered chrominance component data after said vertically filtering of luminance components and said vertically filtering of chrominance components.

13. (Original) The system of claim 12, further comprising means for performing at least one of said means for vertically filtering luminance components of said pixel values and said means for vertically filtering chrominance components of said pixel values, as follows:

means for vertically filtering luminance components of said pixel values by determining filtered luminance component data using:

$$Lum\ (filtered) = \frac{L_1Pl_1 + L_2Pl_2 + L_3Pl_3 + L_4Pl_4}{256}$$

where:

Lum(filtered)= a filtered pixel luminance component,

L_1,L_2, L_3, L_4 = programmable luminance filter coefficients,

Pl_1, Pl_2, Pl_3, Pl_4 = luminance component data for vertical pixels P_1, P_2, P_3, P_4 prior to vertical filtering; and

means for vertically filtering chrominance components of said pixel values by determining filtered chrominance component data using:

$$Chr\ (filtered) = \frac{C_1Pc_1 + C_2Pc_2 + C_3Pc_3 + C_4Pc_4 + C_5Pc_5}{256}$$

where:

Chr(filtered) = a filtered pixel chrominance component,

C_1, C_2, C_3, C_4, C_5 = programmable chrominance filter coefficients, and

Pc_1, Pc_2, Pc_3, Pc_4, Pc_5 = chrominance component data for vertical pixels P_1, P_2, P_3, P_4, P_5 prior to vertical filtering.

14. (Original) The system of claim 9, wherein said vertical filter coefficients are dynamically programmable per video frame of the sequence of video frames for enhancing video encoding of the sequence of video frames.

15. (Currently Amended) At least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of filtering pixels of video frames of a sequence of video frames for facilitating video encoding thereof, said method comprising:

prior to MPEG compression encoding of the video frames, obtaining pixel values of the video frames of the sequence of video frames; and

programmably vertically filtering noise from said pixel values of said video frames prior to said MPEG compression encoding.

16. (Original) The at least one program storage device of claim 15, wherein said programmably vertically filtering comprises obtaining vertical filter coefficients for use in vertically filtering said pixel values.

17. (Currently Amended) The at least one program storage device of claim 16, wherein said obtaining vertical filter coefficients comprises dynamically obtaining via a host interface new vertical filter coefficients during said programmably vertically filtering of pixel values.

18. (Original) The at least one program storage device of claim 16, wherein said vertical filter coefficients comprise at least two programmable luminance filter coefficients and at least two programmable chrominance filter coefficients.

19. (Original) The at least one program storage device of claim 18, wherein said programmably vertically filtering further comprises:

separating luminance components and chrominance components of said pixel values in a vertical filter buffer;

vertically filtering luminance components of said pixel values using said at least two programmable luminance filter coefficients and vertically filtering chrominance components of said pixel values using said at least two programmable chrominance filter coefficients; and

merging filtered luminance component data and filtered chrominance component data after said vertically filtering of luminance components and said vertically filtering of chrominance components.

20. (Original) The at least one program storage device of claim 19, further comprising performing at least one of said vertically filtering luminance components of said pixel values and said vertically filtering chrominance components of said pixel values, as follows:

vertically filtering luminance components of said pixel values by determining filtered luminance component data using:

$$Lum\ (filtered) = \frac{L_1Pl_1 + L_2Pl_2 + L_3Pl_3 + L_4Pl_4}{256}$$

where:

Lum(filtered)= a filtered pixel luminance component,

L_1,L_2, L_3, L_4 = programmable luminance filter coefficients,

Pl_1, Pl_2, Pl_3, Pl_4 = luminance component data for vertical pixels P_1, P_2, P_3, P_4 prior to vertical filtering; and

vertically filtering chrominance components of said pixel values by determining filtered chrominance component data using:

$$Chr\ (filtered) = \frac{C_1Pc_1 + C_2Pc_2 + C_3Pc_3 + C_4Pc_4 + C_5Pc_5}{256}$$

where:

Chr(filtered) = a filtered pixel chrominance component,

C_1, C_2, C_3, C_4, C_5 = programmable chrominance filter coefficients, and

Pc_1, Pc_2, Pc_3, Pc_4, Pc_5 = chrominance component data for vertical pixels P_1, P_2, P_3, P_4, P_5 prior to vertical filtering.

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